

AF-FTR Flow Transmitter

DESCRIPTION

The FTR series of very-low pressure transmitters and transducers sense differential or static pressures and converts this pressure into a proportional electrical output for unidirectional pressure ranges. The FTR series is offered with a 2-wire, 4-20 mA output.

When used in Auto-Flow systems with correctly sized and installed mechanical equipment, these transmitters and transducers are capable of measuring pressures and flows with the accuracy necessary for proper building pressurization and air flow control.

The FTR series is available for all pressure ranges from 0.1 to 1.0 in wc (24.9 to 249 Pa) full-scale. Static accuracy is $\pm 0.25\%$ full-scale in normal ambient temperature environments. The units are temperature compensated to less than $\pm 0.033\%$ FS/°F ($\pm 0.059\%$ FS/°C) of thermal error over the temperature range of 40 to 100° F (4.4 to 37.8° C).



APPLICATION

- ▼ Variable air volume (VAV) and fan control
- ▼ Environmental pollution control
- ▼ Static duct and clean room pressures
- ▼ Medical instrumentation
- ▼ Duct flow measurement

BENEFITS

- ▼ 2-year warranty
- ▼ Minimize installation time with snap-track mounting and easy-to-reach plumbing and electrical connections
- ▼ 2-wire 4-20 mA analog outputs are compatible with existing building automation systems
- ▼ Fully protected against damage due to incorrect wiring
- ▼ Internal regulation permits use with unregulated DC power supplies
- ▼ 0.25% accuracy improves VAV system performance

AF-FTR SPECIFICATIONS

Pressure Ranges & Media

Unidirectional	0 to 0.1, 0.25, 0.5, 0.75, 1.0 in. wc (0 to 24.9, 62.25, 124.5, 186.75, 249 Pa)
Pressure Media	air or similar nonconducting gases
Maximum Line Pressure	25 in. wc gauge (6.225 kPa)
Overpressure	5 x full-scale (either direction) or 10 in. wc (2.49 kPa) whichever is greater

ACCURACY DATA

Accuracy	< $\pm 0.25\%$ full-scale (best straight line) combines nonlinearity, hysteresis, and nonrepeatability
Resolution	infinite
Repeatability	< 0.3% FS
Thermal Effects	< $\pm 0.033\%$ FS/°F over 40-100° F (calibrated at 70° F) < $\pm 0.059\%$ FS/°C over 4.4-37.8° C (calibrated at 21.1° C)
Position Effect	factory calibrated at 0G effect with diaphragm vertical
Range	0 to 0.1 in. wc / 0 to 1.0 in. wc / 0 to 10 in. wc

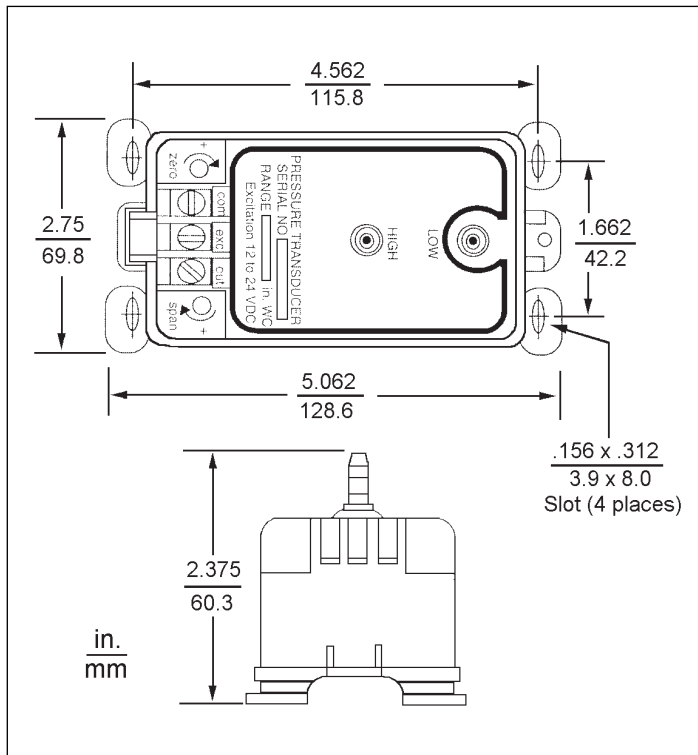
CURRENT OUTPUT

The AF-FTR has a true 2-wire 4-20 mA output circuit which delivers rated current into any external load between 0 and 800 ohms*. Designed to meet ISA-S50.1 (1975) standard "Compatibility of Analog Signals for Electronic Industrial Process Instruments." Type and Class 2U (Universal) within the following parameters:

- ▼ Minimum supply voltage (VDC) = $15 + 0.02 \times (\text{Resistance of receiver plus line})$
- ▼ Maximum supply voltage (VDC) = $32 + 0.004 \times (\text{Resistance of receiver plus line})$

Variations in the power supply voltage cause less than 0.02 mA change in the transmitter's current output per volt change in the power supply. Reverse excitation will not damage the circuit. Zero and span adjust accessible on the top of the case.

*calibrated at factory using a 250 ohm load at 24 VDC



ORDERING INFORMATION[†]

FTR-0.1	0 to 0.1 in. wc (0 to 24.9 Pa)
FTR-0.25	0 to 0.25 in. wc (0 to 62.25 Pa)
FTR-0.5	0 to 0.5 in. wc (0 to 124.5 Pa)
FTR-0.75	0 to 0.75 in. wc (0 to 186.75 Pa)
FTR-1.0	0 to 1.0 in. wc (0 to 249 Pa)

[†] differential pressure range must be specified

ENVIRONMENTAL & MECHANICAL

Temperature	0 to 175° F (-17.8 to 79.4° C) operating -65 to 250° F (-53.9 to 121° C) storage
Case	fire-retardant glass-filled polyester
Mounting	four screw holes on removable stainless steel base. Designed for 2.75 in. (70 mm) snap track.
Pressure Connections	3/16 in. OD barbed brass pressure fitting for 1/4 in. push-on tubing. Positive and reference port on top.
Approximate Weight	10 oz. (285 g)
Electrical Connections	screw terminal strip on top of case



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